

Call Detail Records (CDR)

Feature Summary

Using the Call Detail Records (CDR) functionality, you configure the Cisco MC3810 to compile records of successful calls and failed call events for billing and administrative purposes. You can use a Cisco network management system (NMS) to poll the Cisco MC3810 for CDR events, or display the call records directly on the Cisco MC3810.

Benefits

This feature provides the following benefits:

- By compiling Call Detail Records, you can keep track of successful and failed call events for billing and administrative purposes.

List of Terms

CDR—Call Detail Record. (Cisco Systems Term)

VNS record of voice or data SVCs, which includes calling and called numbers, local and remote node names, data and timestamp, elapsed time, and Call Failure Class fields.

SVC—Switched Virtual Circuit

Virtual circuit that is dynamically established on demand and is torn down when transmission is complete. SVCs are used in situations where data transmission is sporadic. Called a switched virtual connection in ATM terminology. Compare with PVC.

VNS—Virtual Networking Services. (Cisco Systems Term)

Software on some Catalyst 5000 switches that enables multiple workgroups to be defined across switches and offers traffic segmentation and access control.

Platforms

This feature is supported on the Cisco MC3810 only.

Prerequisites

The following configuration tasks should be completed before configuring this feature:

- Configure Voice over Frame Relay, Voice over ATM, or Voice over HDLC, including configuring local and voice-network dial peers.
- Configure the Cisco MC3810 voice ports.

Supported MIBs and RFCs

None.

Configuration Tasks

To configure the Cisco MC3810 to compile CDR events, perform the following tasks beginning in global configuration mode:

Step	Command	Purpose
1	dial-control-mib { max-size <i>number</i> retain-timer <i>number</i> }	<p>Configure the Cisco MC3810 to compile CDR events.</p> <p>The max-size value specifies the maximum size of the CDR event table. The valid range is from 0–1200, and the default is 50. The value 0 disables the CDR feature, meaning no call history is compiled.</p> <p>The retain-timer value specifies the length of time in minutes that entries will remain in the call history table. The valid range is from 0–2147483647 minutes, and the default is 15. Setting the value to 0 prevents any call history from being retained.</p> <p>Note It is recommended that both values be set high enough for the NMS to successfully poll the CDR events, and to access the events in the call history table.</p>
2	exit	Exit configuration mode.
3	show call history voice record	<p>As an alternative to viewing CDR events via the NMS, display portions of the call history table showing the CDR events. The display only shows a snapshot of the events currently stored in the call history table buffer.</p> <p>Some call history records may show an empty string for the calling number. This may be caused by certain configurations, but does not necessarily indicate a problem with the call.</p>

Note The CDR event output is not meaningful until after dial peers for Voice over Frame Relay, Voice over ATM, or Voice over HDLC are configured.

Configuration Example

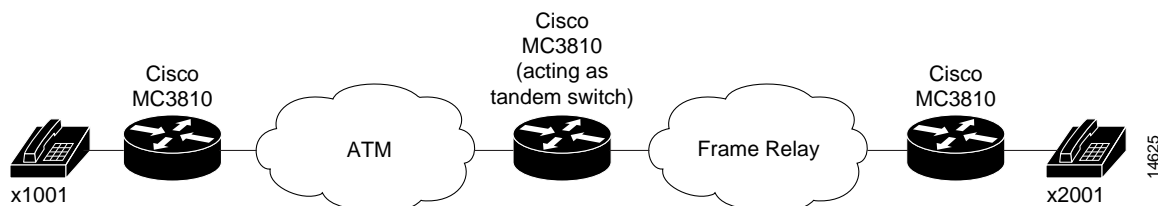
The following is a sample of the output obtained using the **show call history voice record** command showing a local call between two telephones attached to the same Cisco MC3810:

```
show call history voice record
ConnectionId=[0x2C7AEFDC 0x59830001 0x0 0xB0AAA3]
Media=TELE, TxDuration= 1418 ms
CallingNumber=2001
SetupTime=1157801 x 10ms
ConnectTime=1158046 x 10ms
DisconnectTime=1158188 x 10ms
DisconnectText=local onhook

ConnectionId=[0x2C7AEFDC 0x59830001 0x0 0xB0AAA3]
Media=TELE, TxDuration= 1422 ms
CalledNumber=2002
SetupTime=1157802 x 10ms
ConnectTime=1158046 x 10ms
DisconnectTime=1158188 x 10ms
DisconnectText=remote onhook
```

Figure 1 shows an example of a tandem call with three Cisco MC3810 concentrators handling the call.

Figure 1 Tandem Call Configuration Example for CDR Display



On the first Cisco MC3810 (on the left), where the call originates, the **show call history voice record** output is the following:

```
ConnectionId=[0x5BB38AB2 0x3C2D0004 0x0 0x1BD45D]
Media=TELE, TxDuration= 1222 ms
CallingNumber=1001
SetupTime=182383 x 10ms
ConnectTime=182634 x 10ms
DisconnectTime=182756 x 10ms
DisconnectText=local onhook

ConnectionId=[0x5BB38AB2 0x3C2D0004 0x0 0x1BD45D]
Media=ATM, LowerIfName=ATM0, VPI=0, VCI=1
CalledNumber=2001
SetupTime=182383 x 10ms
ConnectTime=182634 x 10ms
DisconnectTime=182756 x 10ms
DisconnectText=local onhook
```

On the second Cisco MC3810 (in the center) acting as the tandem switch, the **show call history voice record** output is the following:

```

ConnectionId=[0x5BB38AB2 0x3C2D0004 0x0 0x1BD45D]
Media=ATM, LowerIfName=ATM0, VPI=0, VCI=1
CallingNumber=1001
SetupTime=8004 x 10ms
ConnectTime=8253 x 10ms
DisconnectTime=8376 x 10ms
DisconnectText=remote onhook

ConnectionId=[0x5BB38AB2 0x3C2D0004 0x0 0x1BD45D]
Media=FR, LowerIfName=Serial1, DLCI=131
CalledNumber=2001
SetupTime=8004 x 10ms
ConnectTime=8251 x 10ms
DisconnectTime=8376 x 10ms
DisconnectText=remote onhook

```

On the third Cisco MC3810 (on the right) where the call is terminated, the **show call history voice record** output is the following:

```

ConnectionId=[0x5BB38AB2 0x3C2D0004 0x0 0x1BD45D]
Media=FR, LowerIfName=Serial1, DLCI=131
CallingNumber=1001
SetupTime=1663593 (10ms)
ConnectTime=1663839 (10ms)
DisconnectTime=1663964 (10ms)
DisconnectText=remote onhook

ConnectionId=[0x5BB38AB2 0x3C2D0004 0x0 0x1BD45D]
Media=TELE, TxDuration= 1258 (ms)
CalledNumber=2001
SetupTime=1663594 (10ms)
ConnectTime=1663838 (10ms)
DisconnectTime=1663964 (10ms)
DisconnectText=remote onhook

```

Command Reference

The following new or revised commands are used to configure the CDR feature:

- **dial-control-mib**
- **show call history voice record**

dial-control-mib

To specify attributes for the call history table, use the **dial-control-mib** global configuration command.

dial-control-mib {**max-size** *number* | **retain-timer** *number*}

Syntax Description

max-size <i>number</i>	Specifies the maximum size of the call history table. Valid entries are from 0 to 500 table entries. A value of 0 prevents any history from being retained.
retain-timer <i>number</i>	Specifies the length of time, in minutes, for entries in the call history table. Valid entries are from 0 to 2147483647 minutes. A value of 0 prevents any history from being retained.

Default

The default call history table length is 50 table entries. The default retain timer is 15 minutes.

Command Mode

Global configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 11.3(1)T.

This command first applied to the CDR feature on the Cisco MC3810 in Cisco IOS Release 12.0(1) XA.

Example

The following example configures the call history table to hold 400 entries, with each entry remaining in the table for 10 minutes:

```
configure terminal
dial-control-mib max-size 400
dial-control-mib retain-timer 10
```

show call history voice record

To display Call Detail Record (CDR) events in the call history table, use the **show call history voice records** privileged EXEC command.

show call history voice record

Command Mode

Privileged EXEC.

Usage Guidelines

This command first appeared in Cisco IOS Release 12.0(2)T.

Example

The following example displays a sample of voice call history records showing a local call between two telephones attached to the same Cisco MC3810:

```
show call history voice record

ConnectionId=[0x2C7AEFDC 0x59830001 0x0 0xB0AAA3]
Media=TELE, TxDuration= 1418 ms
CallingNumber=2001
SetupTime=1157801 x 10ms
ConnectTime=1158046 x 10ms
DisconnectTime=1158188 x 10ms
DisconnectText=local onhook

ConnectionId=[0x2C7AEFDC 0x59830001 0x0 0xB0AAA3]
Media=TELE, TxDuration= 1422 ms
CalledNumber=2002
SetupTime=1157802 x 10ms
ConnectTime=1158046 x 10ms
DisconnectTime=1158188 x 10ms
DisconnectText=remote onhook
```

Table 1 explains the fields in the sample output.

Table 1 Show call history voice record Field Descriptions

Field	Description
ConnectionID	Global call identifier for this voice call
Media	Call over the type of media. If the call is over the (telephone) access side, the entry will be TELE. If the call is over the voice network side, the entry will be either ATM, FR (for Frame Relay), or HDLC.
LowerIFName	Physical Lower interface information. Only displays if the Media is either ATM, FR, or HDLC.
TxDuration	The length of the call. Only displays if the Media is TELE.
CalledNumber	The called number.
CallingNumber	The calling number.
SetupTime	Time the call setup started.
ConnectTime	Time the call is connected.
DisconnectTime	Time the call is disconnected.

Table 1 **Show call history voice record Field Descriptions (Continued)**

Field	Description
DisconnectText	Descriptive text explaining the reason for disconnect.